

# Forward-Deployed Drone Torpedoes - The Future of Anti-Carrier Warfare

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## Introduction

When we think of sea-based minefields, we tend to think of high-density metallic mines, the presence of which is deduced by monitoring for activity by mine-laying ships and verified by minesweeping ships that use sonar to detect objects. Navies principally look for mines in contested waterways such as straits and canals, but do not generally check for mines on the high seas.

The availability of accurate visual telemetry from space-based platforms as well as the ability to send high-bandwidth signals to underwater assets from space open the door to a new naval defense strategy. With submarines no longer stealthy absent an Electron Spin Randomization (ESR) coating to disrupt coherent soliton waves emitted by space-based soliton radar platforms, the ability to forward-deploy individual torpedoes in areas where adversarial naval targets may pass would provide a strategic advantage.

## Abstract

Rather than a high-density minefield laid by ship, ultra-low-density minefields consisting of a single torpedo every 50 or so nautical miles could prove devastating for any hostile force. The addition of sonar-absorbing materials and the use of explosives and casing materials with a density similar to water would make these smart mines very difficult to detect.

Satellite-based signals would be capable of relaying complex instructions to the torpedo/mine. Included in those instructions could be the real-time location of a hostile aircraft carrier (easily spotted from space.) Disabling hostile aircraft carriers is a critical first step toward disabling enemy airborne radars, which 5th-generation fighters depend upon as their eyes and ears.

These mines could be designed to float at the surface, using solar panels as their primary power source and a battery to store energy. Rather than have the torpedoes try to fight the ocean currents, thousands of torpedoes could be deployed that are designed to travel (mostly) with the currents.

Taking inspiration from the mode of operation of certain low-earth orbit satellites, a constant, gentle thrust would be used to keep the torpedoes/mines from drifting toward the center of circulation of the applicable ocean current. Without power, any object caught in an ocean current would eventually wind up at the ocean's center of circulation, or perhaps would wind up washing up on a shoreline. This reality is evidenced by the hundreds-of-miles-wide "garbage islands" in every ocean on Earth.

If one of these pieces of flotsam were able to gently propel itself, however, it could stay out of the "garbage island" as well as avoiding washing up on shore. As long as this propulsion were steadily applied much as by satellites

with ionic propulsion in ultra-low Earth orbit, a constellation of dormant torpedoes could circulate the oceans in International Waters, awaiting activation in a war situation. They would keep 50 miles apart, not by trying to stay in the same spot, but by, for the most part, going with the flow.

The ideal mode of attack for such a torpedo would be to auto-navigate to a point "upstream" from a hostile carrier where the ocean currents will drag the unit into the path of the carrier. Battle group defense is based upon attack submarines listening for the noise a torpedo (or submarine) motor makes. Once within range, the intelligent torpedo could activate, first diving to a low depth (simply by evacuating air from a small ballast tank) then moving to a point directly below a hostile carrier. The torpedo could then re-activate its propeller and travel straight up, impacting the bottom side of the ship and leaving little opportunity for countermeasures to interfere with operation.

These sorts of assets could persist in open waters for years without maintenance and could be activated at a time of need, should the need arise without the risk of accidental activation.

## **Conclusion**

Much as with the weaponization of space, taking such action would, in effect, invite hostile nations to follow suit and deploy their own similar drones. Nonetheless, history has shown that treaties concerning the mutual agreement not to deploy such systems are routinely flouted. The advantage will likely go to whichever nation is first to identify this as the next logical innovation in naval defense.